

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-16 (Cancelled)

Claim 17 (New) An apparatus for determining a characteristic of an occupant of a vehicle, the apparatus comprising:

means for collecting a first two-dimensional image of an occupant location while the occupant location is subject to a first lighting condition, the first lighting condition including lighting from ambient light;

means for providing a pattern of light onto the occupant location, the pattern of light having an intensity that is less than an intensity of the ambient light;

means for collecting a second two-dimensional image of the occupant location while the occupant location is subject to the first lighting condition and the provided pattern of light;

means for generating a third image of the occupant location indicative of a difference between the first and second two-dimensional images; and

means for analyzing the pattern of light in the third image to determine a three-dimensional characteristic of the occupant.

Claim 18 (New) The apparatus as set forth in claim 17, wherein the means for providing the pattern of light comprises means to provide the pattern such

that the pattern is at least partially distorted when impinging upon surfaces at the occupant location, the means for analyzing the pattern of light comprising means for analyzing distortions of the pattern to determine the three-dimensional characteristic of the occupant.

Claim 19 (New) The apparatus as set forth in claim 18, wherein the means for analyzing distortions of the pattern to determine the three-dimensional characteristic of the occupant comprises means for determining the three-dimensional location of features of the occupant.

Claim 20 (New) The apparatus as set forth in claim 17, wherein the means for collecting the first image and the means for collecting the second image are provided in a single component, the means for analyzing the pattern of light in the third image to determine the three-dimensional characteristic of the occupant comprises means for determining distance to an occupant at the occupant location from the single component.

Claim 21 (New) The apparatus as set forth in claim 20, wherein the single component is located forward of the occupant location with regard to a vehicle-based orientation.

Claim 22 (New) The apparatus as set forth in claim 21, wherein the means for providing the pattern of light directs light rearward onto the occupant location.

Claim 23 (New) The apparatus as set forth in claim 20, wherein the single component is located lateral of the occupant location with regard to a vehicle-based orientation.

Claim 24 (New) The apparatus as set forth in claim 23, wherein the means for analyzing the pattern of light in the third image to determine the three-dimensional characteristic of the occupant comprises means for determining a position of the occupant along a fore-to-aft axis of the vehicle.

Claim 25 (New) The apparatus as set forth in claim 17, wherein the apparatus is part of an occupant protection system that includes an actuable occupant protection device, the apparatus further comprising means for outputting a signal indicative of the determined three-dimensional characteristic of the occupant for use by the occupant protection system in controlling the actuable occupant protection device.

Claim 26. A method for determining a characteristic of an occupant of a vehicle, the method comprising:

collecting a first two-dimensional image of an occupant location while the occupant location is subject to a first lighting condition, the first lighting condition including lighting from ambient light;

providing a pattern of light onto the occupant location, the pattern of light having an intensity that is less than an intensity of the ambient light;

collecting a second two-dimensional image of the occupant location while the occupant location is subject to the first lighting condition and the provided pattern of light;

generating a third image of the occupant location indicative of a difference between the first and second two-dimensional images; and

analyzing the pattern of light in the third image to determine a three dimensional characteristic of the occupant.

Claim 27 (New) The method as set forth in claim 26, wherein said step of providing the pattern of light comprises the step of providing the pattern such that the pattern is at least partially distorted when impinging upon surfaces at the occupant location, the step of analyzing the pattern of light comprising the step of analyzing distortions of the pattern to determine the three-dimensional characteristic of the occupant.

Claim 28 (New) The method as set forth in claim 27, wherein the step of analyzing distortions of the pattern to determine the three-dimensional characteristic

of the occupant comprises the step of determining a three-dimensional location of features of the occupant.

Claim 29 (New) The method as set forth in claim 26, wherein the step of analyzing the pattern of light in the third image to determine the three-dimensional characteristic of the occupant comprises the step of determining distance to an occupant at the occupant location from a location of an imager for collecting the first and second two-dimensional images.

Claim 30 (New) The method as set forth in claim 29, wherein the step of providing the pattern of light further includes the step of directing light rearward, relative to a vehicle-based orientation, onto the occupant location.

Claim 31 (New) The method as set forth in claim 29, wherein the step of providing the pattern of light further includes the step of directing light laterally, relative to a vehicle-based orientation, the step of analyzing the pattern of light in the third image to determine a three-dimensional characteristic of the occupant comprises the step of determining a position of the occupant along a fore-to-aft axis of the vehicle.